Contents of GSIP files

Index	Description	Unit
1	latitude of target center	Deg
2	mean albedo of channel 1	%
3	longitude of target center	Deg
4	mean temperature of channel 2	K
5	year (yy) and day of year (ddd)	yyddd[1]
6	UTC time	hhmmss
7	mean temperature of channel 3	K
8	mean temperature of channel 4	K
9	skin temperature	K
10	mean temperature of channel 5	K
11	outgoing longwave radiation	W/m^2
12	channel 1 radiance	rdu1[2]
13	channel 2 radiance	rdu2[3]
14	channel 3 radiance	rdu2[3]
15	channel 4 radiance	rdu2[3]
16	channel 5 radiance	rdu2[3]
17	mean clear visible radiance	rdu1[2]
18	mean cloudy visible radiance	rdu1[2]
19	clear sky composite radiance for UMD model	rdu1[2]
20	number of clear pixels	
21	number of cloudy pixels	
22	precipitable water (from forecast)	cm
23	snow depth	inch/10
24	solar zenith angle	Deg
25	satellite zenith angle	Deg
26	relative azimuth angle	Deg
27	snow cover	%
28	aerosol optical depth at 0.55 microns	
29	cloud optical depth at 0.55 microns	
30	temperature 1st level above surface	K
31	temperature 2nd level above surface	K
32	standard deviation of channel 1 albedo	%
33	moisture 1st level above surface	
34	moisture 2nd level above surface	
35	standard deviation of channel 2 temperature	K
36	wind speed 1st level above surface	m/s
37	wind speed 2nd level above surface	m/s
38	standard deviation of channel 3 temperature	K
39	all-sky top of atmosphere downward flux	W/m^2
40	all-sky top of atmosphere upward flux	W/m^2
41	all-sky surface downward flux	W/m^2
42	all-sky surface upward flux	W/m^2
43	clear-sky top of atmosphere upward flux	W/m^2

44	clear-sky surface downward flux	W/m^2
45	clear-sky surface upward flux	W/m^2
46	all-sky surface diffuse downward flux	W/m^2
47	all-sky surface diffuse PAR	W/m^2
48	all-sky surface global (direct+diffuse) PAR	W/m^2
49	land surface type (1:water, 2:land, 3:desert, 4:snow)	
50	number of partly cloudy pixels	
51	covariance between channels 1 and 4	
52	standard deviation of channel 1	
53	standard deviation of channel 2	K
54	standard deviation of channel 3	K
55	standard deviation of channel 4	K
56	standard deviation of channel 5	K
57	clear standard deviation of channel 1	
58	clear standard deviation of channel 4	K
59	forecast time[4]	hh.h
60	standard deviation of channel 4 temperature	K
61	standard deviation of channel 5 temperature	K
62	clear composite radiance for cloud detection	rdu1[2]
63	surface pressure	mb
64	mean clear temperature of channel 2	K
65	mean clear temperature of channel 3	K
66	mean clear temperature of channel 4	K
67	mean clear temperature of channel 5	K
68	mean cloudy temperature of channel 2	K
69	mean cloudy temperature of channel 3	K
70	mean cloudy temperature of channel 4	K
71	mean cloudy temperature of channel 5	K

Notes

(1) yyddd is preceded by "1" for years onward of 2000

(2) rdu1 = W/(m^2 sr μm)

(3) rdu2 = W/(m^2 sr cm^{-1})

(4) The forecast data is time interpolated from the two forecasts
    bracketing the hour being processed. This time refers to the
    extrapolated valid time.

*Example Fortran code for reading the GSIP files HR**

```
 INTEGER  Ncol, Nrow, Nvar
 PARAMETER  ( Nlon=121, Nlat=61, Nparam=71 )
 REAL  Rdat( Nlon, Nlat, Nparam )

 OPEN ( Unit=1, File='HR0418217', Form='UNFORMATTED', Status='OLD' )

 DO Lat = 1, Nlat
    DO Lon = 1, Nlon
       READ ( 1 ) ( Rdat(Lon,Lat,Ip),Ip=1, Nparam )
    END DO
 END DO
```